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GENERAL INFORMATION

JANUARY 1962

Soil Conservation

SOIL CONSERVATION SERVICE • U. S. DEPARTMENT OF AGRICULTURE

VOL. XXVII, No. 6 JANUARY 1962

Growth Through Agricultural Progress

Soil Conservation 25 Years Ago

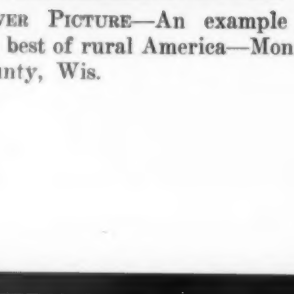
"Winter is a good time for farmers inside and outside the 153 erosion-control demonstration projects to think about pasture improvement and range management."

•

"Projects are eager to demonstrate to the farmer how he may conserve his soil at least expense. In every region shortcuts and cost-reductions are being effected through intelligent planning, through the substitution of vegetation for elaborate structures wherever feasible, through the adaptation of equipment already at hand, and through making use of the information accruing from both operations and research."

•

"Contour ridges may be constructed by the farmer with rapidity and at moderate cost, as compared with some other methods of protection. On an average slope, not severely gullied, a farmer with one team can mark and construct ridges on 2 acres per day."



COVER PICTURE—An example of the best of rural America—Monroe County, Wis.

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Soil Conservation

ORVILLE L. FREEMAN
Secretary of Agriculture

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Administrator, Soil Conservation Service

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FRANK B. HARPER, Editor

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Rural Areas Development

Through Soil and Water Conservation

By Donald Williams

SOIL and water conservation and rural area improvement have been synonymous concepts for almost 30 years.

From earliest erosion control demonstration and Civilian Conservation Corps project days in the 1930's, a main objective of the Soil Conservation Service has been to encourage the maximum number of landowners and operators in a given community or watershed to adopt conservation practices, not just for the sake of soil erosion control on their individual farms or ranches, but for area-wide resource conservation and economic betterment.

When farmer-organized and farmer-managed soil conservation districts took over leadership at the local level of the national action program of soil and water conservation, beginning in 1937, the communitywide conservation approach became a spontaneous reality. The objective of each district program is to conserve and develop all of the soil, water, plant, and human resources of the area so as to achieve economic and social benefits for the area as a whole—not just for individual program participants. The success of this community conservation approach has been repeated 2,900 times over in the soil and water conservation districts that today cover 92½ percent of the Nation's farmlands.

The practicability of rural area development through soil and water conservation next was demonstrated in small-watershed flood prevention and watershed protection projects.

In them, every pertinent aspect of rural area development, and related urban benefits, is taken into consideration. Thus multiple-purpose flood prevention dams may impound water that invites various agricultural processing plants and small manufacturing industries to establish themselves in the communities, while landowners and operators reap a continuing harvest of stable markets replacing the erstwhile unpredictable outlets for their agricultural investments and labor.

By the same token, the Great Plains Conservation Program in the 10-State area, reaching from Canada into Texas, is building rural area improvement on a scale never before experienced since the pioneers pushed their way into this vast and fertile region.

Every rural area's economy and well-being is rooted in the soil. So is that of every village, town, and city. There is not a single thing that the Soil Conservation Service does—from its cooperative soil surveys to its help to soil conservation districts and watershed farmers and ranchers in conservation farm and ranch planning and application of practices on their lands—that does not contribute directly to rural area improvement—the development of rural America! The SCS:

Gives technical assistance for economic development of soil and water resources for agricultural and nonagricultural purposes.

Provides soil surveys, land inventories, and land capability interpretations for agricultural development, site locations for project construction, special land uses, and public facilities.

Provides financial and technical assistance for developing water resources in small watersheds, for both agricultural and nonagricultural uses and for flood prevention.

With other U. S. Department of Agriculture agencies, assists farmers with farm unit reorganization and farm income improvement through replanning of farm units.

Contributes financial and technical assistance to long-range conservation plans on farms and ranches in the Great Plains area.

All of the work of the Soil Conservation Service contributes to the development and efficient use of land and water resources, and thus contributes to the basic objectives of the Rural Areas Development Program. The very nature of the Service's work, and the manner in which it carries it out through locally organized soil and water conservation districts, community watersheds, and Great Plains Conservation Program participants, among others, is basic to the RAD program. Any necessary reorientation and redirection to help rural areas plan and execute programs for expanded employment and income through intensified soil and water conservation farming will continue to be given priority Soil Conservation Service attention wherever the Rural Areas Development Program is undertaken.

Rural Area Development

At Its Best in Virginia

By Lester Fox

THE story of the Mountain Run watershed project at historic Culpeper in Virginia is one of rural area development at its best.

Everybody is sharing the benefits from this representative multiple-purpose small-watershed project in this historic Civil War battlefield area in northern Virginia, farmers across whose lands battles of a century ago were fought as well as the people of the town of Culpeper and of Culpeper County as a whole. They are enjoying these flood prevention, improved water supply, and other physical and economic benefits because rural and city leaders enlisted all-out community teamwork in seeing the project through to successful completion.

As Secretary of Agriculture Orville L. Freeman said in dedicating the project last September 23, it "shows plainly what local people working in tandem with the Department of Agriculture can accomplish."

"It is one means through which the rural areas of the Nation can begin to share more equitably in the prosperity of a strong and powerful Nation," he added. "And it is a means by which rural America can contribute more effectively to the continued growth and prosperity of that Nation. The people of Culpeper have shown that the program can be successful. We shall now move ahead to show the Nation that Rural Area Development can help people help themselves."

The people of Culpeper for years had been up against costly flooding and water-shortage problems. Flood damages amounted to $12,000 a year. In 1955, 1956, and 1957 Mountain Run, the town's main source of water, got so low it had to draw on its emergency supply from an abandoned quarry acquired several years earlier for storing standby water pumped into it each spring.

Secretary of Agriculture Orville L. Freeman dedicates Mountain Run watershed project.

Realizing that water troubles were pinching off Culpeper's chances for community and industrial growth, to say nothing of flooding and erosion damage to area farmlands, the Culpeper town councilmen voted to co-sponsor the Mountain Run watershed project with the Culpeper Soil Conservation District. Application for Federal help through the Watershed Protection and Flood Prevention Act was made in 1955.

The project received approval for Federal planning assistance the same year, and was authorized for construction in 1958. Work was started later that year on the first of three flood-prevention dams that, with 6½ miles of stream-channel improvement and conservation treatment of watershed lands, comprise the project's principal developments. One of the

New Plants:—Part of industrial and business expansion resulting from Mountain Run project.

dams was made a dual-purpose structure to store 190,500,000 gallons of water as an extra supply for Culpeper, or more than half a year's supply at the present rate of consumption. The other two dams are wholly for flood prevention.

The entire Mountain Run watershed project cost $545,000, of which $377,000 was the local share and only $168,000 the Federal Government's share, primarily for the flood-prevention part of the project. For every dollar spent on the project, a return of $1.18 in benefits is being realized. Here are some of those benefits in communitywide rural area improvement:

Because of plentiful water and protection from flooding, things are looking up in the Culpeper area. Three new industries have set up branches there, and others have sought information about possible sites. Without the watershed development, there would be none—nor the new jobs now open to several hundred local people.

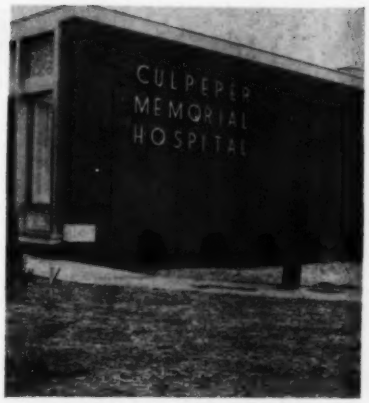
Culpeper also now has a new hospital, the building of which likewise had been held up because of lack of water. And new home developments, made possible by the extension of water mains, are going up, along with a shopping center on a previously swampy area.

The town of Culpeper has eliminated most of its flood hazards; and once-hazardous flood plains are being converted to higher value uses for farming and commerce, broadening the community's tax base in the process. Roads in the watershed have been protected and beautified by roadbank erosion control measures.

The entire trading and residential area has been enhanced by the three new lakes, with total maximum flood pool storage capacity of 2,860 acre-feet, and by the channel improvements. Recreational space has been multiplied for boating and fishing; and a 4-acre picnic area is being developed at Mountain Run Lake, the first park ever developed in Culpeper County.

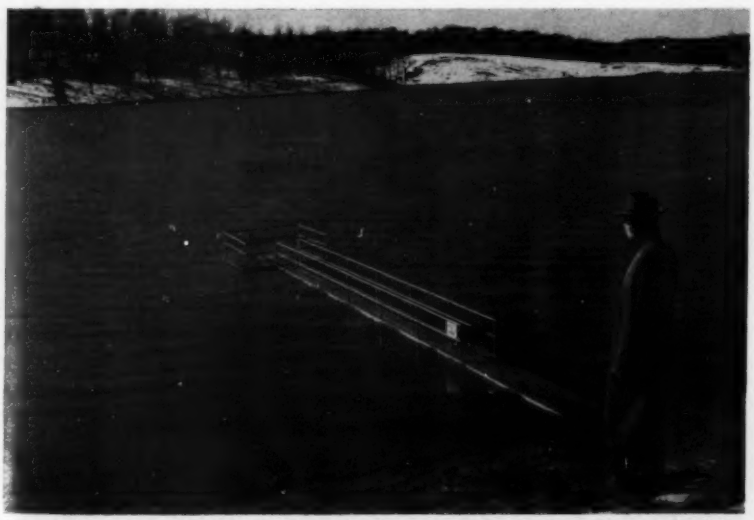
While the town of Culpeper is enjoying these many benefits from the Mountain Run watershed project, perhaps the greatest gains will come to the area's agricultural land in reduced flood damages. Protection and improvement of the farmland through stepped-up application of conservation measures makes possible more intensive and profitable use of that land and increases farm values.

These and other returns from the Mountain Run project explain why it was selected over all other watershed developments in the country to receive the National Watershed Congress' "Watershed Project of the Year" award for 1961. Meanwhile, the people of the Culpeper area are happy over their bargain of so many substantial returns for their investment, and the low cost of only $1,160 a year to maintain and operate the project.



New Hospital:—Water developed in watershed project made it possible.

New Homes:—Extra water made them possible, too.



New Lake:—SCS WUC L. B. Henretty has reason to admire dual-purpose lake supplying Culpeper's new water.

Note:—The author is field information specialist, Soil Conservation Service, Upper Darby, Pa.

Nation's First Small-Watershed Project Spurs Arizona Area's Economy

By Julian J. Turner

THE Nation's first small-watershed project to be completed continues to pay individual and community dividends in increased income and expanded business and public improvements.

It is the White Tanks pilot watershed protection project in Maricopa County, Ariz. Two flood-retarding dams were built in 1954 through the pilot flood-prevention program; and 9-mile-long McMicken Dam was finished in 1956 by the Corps of Army Engineers to control flooding on the Trilby Wash portion of the watershed. Together, they made reality the dream of local leaders as early as the 1920's and 1930's of protecting the fertile, newly irrigated desert lands, and the growing communities lying between the usually dry Agua Fria River and the White Tank, Wickenburg, and Hieroglyphic Mountains to the west and north.

For a quarter of a century, the Agua Fria story was basically one of local leaders with vision, determination, and a deep sense of community responsibility working together and with all available agencies of Government to solve their watershed problems of land management, soil and moisture conservation, and flood prevention. It included their enlisting the cooperation of the Soil Conservation Service in demonstrations in the early 1940's, before World War II slowed them down, and organization of the Agua Fria Soil Conservation District in 1945.

The story also included preparation of detailed flood-prevention plans after World War II, based on a preliminary engineering report prepared by SCS in 1941; and agreement of the Maricopa County Municipal Water Conservation District No. 1, an irrigation district comprising about one-half of the irrigated lands of the soil conservation district, to lend the Agua Fria district equipment for clearing brush and digging test pits and to contribute other services.

Efforts were spurred by frequent damaging flash floods from heavy rains on the sparsely vegetated desert watershed, culminated in August 1951 when direct flood damage from a single storm amounted to $3 million. Rich farmlands and ripening crops were washed away, miles of highways and many sections of railroad tracks were washed out, and telephone lines were swept away. Luke Air Force Base and roads leading to it were inundated. Training of combat pilots vitally needed in Korea was suspended for several days. Homes of people living on farms in the town of Litchfield Park, Goodyear, and Avondale were damaged severely. The aircraft plant and the Litchfield Naval Air Facility were under water.

With $34,000 of 1952 Production and Marketing Administration funds and $108,000 contributed by the irrigation district, and with SCS technical direction, a dam 4 miles long and 23 feet high was built that effectively controlled all nine subsequent floods

One of White Tanks dams with protected irrigated land (upper left).

Note:—The author is State conservation engineer, Soil Conservation Service, Phoenix, Ariz.

in the Trilby Wash area, and is now a part of the 9-mile-long McMicken Dam.

But the big break came in 1953 when Congress appropriated money to carry on flood-prevention and watershed-protection work in more than half a hundred selected tributary watersheds over the country, one of which was the White Tanks "pilot" watershed project. Meanwhile, Arizona's Senator Carl Hayden sponsored legislation authorizing the Secretary of the Air Force to construct the Trilby Wash detention basin and outlet channel, later dedicated as McMicken Dam.

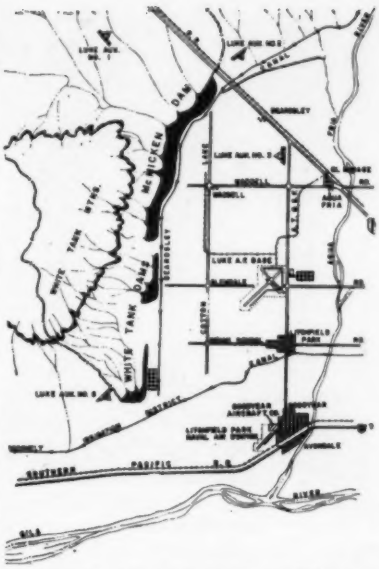
Thanks to the long range planning of the SCD supervisors and irrigation district officials, rights-of-way had been arranged for, water rights settled, and detailed plans were ready for the White Tanks project. A contract for construction was awarded early in 1954, and by July of the same year, the White Tanks work was completed, at a cost of $420,000, of which the local interests contributed $220,000 and the Federal Government $200,000.

It was because damage to defense installations was caused by floodwaters from Trilby Wash that the County of Maricopa as sponsor for both projects called upon the Corps of Engineers for help in the control of that portion of the watershed, for which local interests contributed another $250,000.

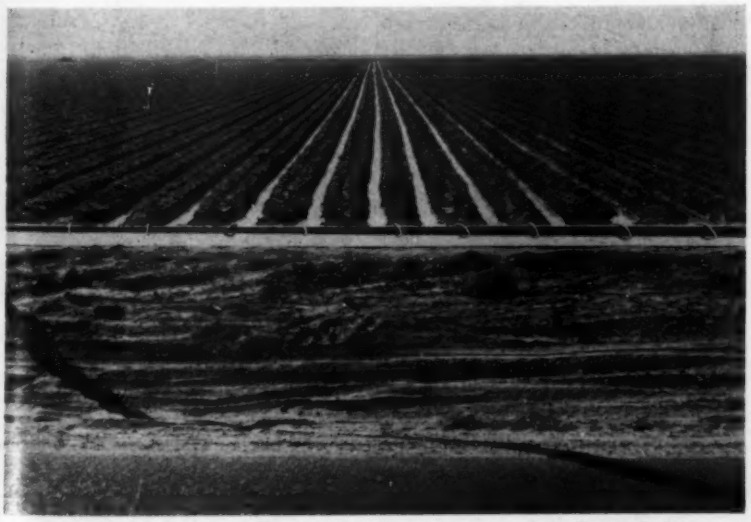
The White Tanks and McMicken Dams have had a tremendous effect on rural development and triggered a boom in the application of conservation practices and communitywide improvements of all kinds:

SCD cooperators replaced 233 miles of wasteful earth ditches with concrete-lined ditches or pipelines during the 5 years after completion of the White Tanks project—121 miles more than were installed during the 5 years prior to 1954. District farmers have lined or tiled more than 400 miles of irrigation ditches and precisely leveled more than 52,000 acres of the 70,000 acres of farmland. These measures, plus more efficient use of irrigation water, are credited with preventing water loss and waste of more than 40,000 acre-feet annually, or enough water to produce 8,000 carloads of lettuce.

With the protection of flood prevention, more farmers turned to such high-cost, high-income crops as lettuce, asparagus, and grapes. Their per-acre gross income rose from less than $200 to better than $400 between 1950 and 1960. The 36 miles of farm roads paved since 1954 is 10 miles more than all the roads previously paved. A million-dollar housing development has been built adjacent to one of the White Tanks dams. Census figures show that the towns of Goodyear and Avondale have more than doubled in population, and assessed valuation of property in these two incorporated towns tripled between 1950 and 1960.



White Tanks project area with protected farmlands, communities, and installations at right.



Irrigating leveled field of fall lettuce from concrete-lined ditch.

The multi-million dollar Phoenix Air Defense Center has been established at Luke Air Force Base, and the Capehart Housing Project of 1,000 homes has been built on land that was under water during the 1951 floods. Three thousand acres of fertile land, previously abandoned, has been reclaimed and is producing crops valued at more than $1 million a year.

This is a typical comment by those who are benefiting directly

Teamwork

Saves a Bridge

By Leon J. McDonald

Western Ave. and Litchfield Rd. during 1951 flood.

Same corner as developed in 1961.

THE taxpayers got a bargain when supervisors of the South Caddo County Soil Conservation District and County Commissioner George Nixon in Oklahoma teamed up to do a $30,000 bridge-saving job that neither could do alone.

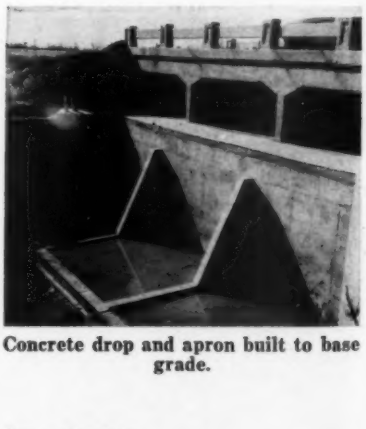
Because drainage from 1,800 acres was diverted from its natural course to the bridge area, the bridge, built of reinforced concrete in 1948 as a part of a farm-to-market road project, was almost ready to fall into a huge gully and follow the soil down the creek. The concentration of runoff water was flowing through and under the bridge, and had created the gully by washing 30,000 cubic yards of soil from the area below the structure. The gully was so large that it was estimated it would have taken dump trucks hauling 30 loads a day for 5 days a week 40 weeks to refill it.

Commissioner Nixon went to the district for help. The supervisors told him the Soil Conservation Service technicians assigned to the district could help him. They helped him develop a plan, which included an 8-foot concrete drop from the base of the bridge, and a 5-foot apron which brought the bottom of the structure to base grade.

Doyle Dirickson, district cooperator and owner of adjacent land, granted the county a 100-foot right-of-way for one-half mile. The gully banks and all disturbed areas were sprigged to bermudagrass to prevent erosion and make the road safe for motorists.

The project cost $6,500 and the "will to work together."

Gully that threatened bridge.



Concrete drop and apron built to base grade.

from this watershed-rural area improvement:

Vice-President W. N. Kring of Goodyear Farms:

"Prior to the start of this program, our property had on several occasions suffered extensive damage from flash floods, having their origin in the White Tank Mountain Area. We feel that with the diversion and detention dams now in place, our property is, for the first time, adequately protected."

Note:—The author is assistant State conservationist, Soil Conservation Service, Stillwater, Okla.

Big "C" Stands For

Connally—Cattle—and Coastal Bermudagrass

By Harold V. Stephans
and Fritz Graeber

The Connally brothers (left to right) John, Wayne, and Merrill, with purebred Hereford bull.

SOMETHING of an "agricultural revolution" was started in the area southeast of San Antonio when Manager Merrill Connally of Picosa Farms in Texas' Wilson County Soil Conservation District planted some tired peanut land to coastal bermudagrass in 1957.

The district, with headquarters at Floresville, has been noted for the production of peanuts and truck crops for many years. But a combination of wind and water erosion, rising costs of row-crop production, and falling prices caused many farmers to look for something that would give them better returns with less labor and investment, and which also would control soil erosion. Coastal bermudagrass has provided a solution to their problems.

In an area blessed by a long growing season, plenty of sunshine, and adequate moisture most of the time, coastal bermudagrass has thrived beyond their fondest dreams. Fields which were considered worn out have shown new life. Blowing sand has rolled to a stop. Raw gullies are being turned into gentle, productive watercourses.

Connally emphasizes that coastal bermudagrass can be profitable for broader community uses than individual ranch feeding. Several thousand bushels of sprigs have been sold to farmers to be used to establish pastures and grassed waterways, and to stabilize critical erosion areas. Coastal bermudagrass also has proved to be ideally suited for protecting dams and levees, as well as for desilting water above ponds and reservoirs.

A considerable amount of baled hay was sold to watermelon shippers to pad their melons en route to market. Hay brought $30 to $35 a ton in 1960. Ten tons of hay to the acre was harvested on part of the Connally acreage. Coastal bermuda also has been effective in weed control.

Ever since the beginning of this new grass-planting venture, Merrill, John, and Wayne Connally have been clearing brush from low-producing pastures, developing water facilities, fencing—and, of course, buying cattle. Whereas at least 12 to 15 acres was needed to graze 1 animal unit on brushy native pastures, 2 acres of dryland coastal bermudagrass normally will carry 1 animal unit for a period equivalent to 12 months. Merrill Connally thinks 1 acre, if irrigated and fertilized, will support 2 animal units

Connally registered Hereford cows and calves on coastal bermudagrass pasture.

Note:—The authors are management agronomist, Alice, Tex., and work unit conservationist, Floresville, Tex., both of the Soil Conservation Service.

for an equal time. He estimates that beef production will hit 250 pounds an acre on dryland coastal bermuda, and 1,000 pounds an acre when irrigated.

The Connally brothers have a basic herd of 100 registered Hereford cows, and belong to the Texas Hereford Association. They also have 150 head of high-grade commercial cows, and 250 head of average commercial cows. Approximately 65 head of Santa Gertrudis cows are grazed on one division. Their goal is to run 1,000 head on 3,300 acres of coastal bermudagrass within the next 2 or 3 years.

Pasture-management practices in the conservation plan, which the Connallys worked out through the soil conservation district with the technical help of the Soil Conservation Service, include rotation grazing, proper pasture use, and fertilizing. Water facilities were planned at key locations, and irrigation practices on 400 acres.

Pasture units consist of 50 to 60 acres of coastal bermudagrass, which is grazed down to approximately a 6-inch height before cattle are moved on to a fresh pasture. This practice permits timely harvest of high quality forage at the proper stage of growth. When the grass gets ahead of the cattle, hay is baled. The hay is fed during winter or sold to local beef or dairy farmers, who are anxious to buy this quality feed. Coastal bermudagrass ensilage also has been used successfully.

Fertilizing is of prime importance in increasing growth and quality of forage. A bonus of 8 percent protein is included in fertilized forage over the unfertilized. Tests show the protein content of forage from fertilized coastal bermuda to be approximately 16 percent on a dry-weight basis.

The Connallys are setting the pace in a trend to grassland farming in south-central Texas. The outlook is good for the area's economy for the land, and for those who make their living from it.

Project Solves Water Problems For Illinois City and Farmers

By Kent Alverson

A FARM-CITY "conservation package" deal has put an end to the long-standing water worries of the people of the Pittsfield area in west-central Illinois for at least the next 75 years.

As a result of their recently completed watershed protection and flood prevention project on Big Blue Creek, they now have a 240-acre lake and a spanking new treatment plant that will send pure water to local homes and industries. The lake is Lake Pittsfield, but the dam is dedicated to Tom Troutner, former mayor who got the project started.

The lake stores water for community use and to reduce flooding of farmland in the Big Blue watershed—a broken, secluded farming area lying between the city and the Illinois River. The same dam that backs up water for Pittsfield's lake has extra height to catch and store temporarily the excess water that pours off 10,000 acres of surrounding farmland during heavy rains. This dam, and a smaller one farther upstream built just for flood retardation, will provide 2,800 acre-feet of temporary storage.

Slowing this water down will cut flood damage on 830 acres of highly productive flood-plain land below. Soil Conservation Service economists figure farm benefits will be at least $8,000 a year and city benefits more than $10,000 a year. Returns will be about $1.25 for every dollar spent, not including those from recreational facilities, attraction of new industry, or lower fire insurance rates.

This is truly a local project, with Federal help. In planning ahead for future water needs, alert city officials not only had saved enough to buy the necessary land outright, but they will finance all other costs through regular receipts without

Conservation land treatment will prevent erosion like this from silting up the new lake.

Note:—The author is field information specialist, Soil Conservation Service, Milwaukee, Wis.

additional tax burdens. In a report to the community at the dedication ceremonies last Octoer, Mayor Frank Penstone listed local cash payments at $168,848; general obligation bonds $458,000; revenue bonds $175,000; and $114,,269 received from the SCS for defraying the cost of the project's flood-prevention features.

To keep their lake clear and beautiful, sponsors are counting heavily on farmers in the watershed to follow such conservation practices as cropping systems with plenty of grasses and legumes, and contour cultivation to keep topsoil on their fields and out of Blue Creek and the lake. More than half of the landowners above the two dam sites are cooperators with the Pike County Soil Conservation District, and the number is increasing.

The Pittsfield area has a long history of severe water shortages. In the drought years of 1953 and 1954, for example, Pittsfield hauled water from the Mississippi River at Louisiana, Mo.; and $30 a month for a family water bill was not unusual. By 1946, the city's primary source of water, a small reservoir built in 1924, had lost nearly half its capacity from silt washed down from surrounding cornfields farmed up and down hill. Even after the drilling of two deep wells to supplement the lake, the supply barely kept pace with the city's increasing water consumption.

After the Watershed Protection and Flood Prevention Act was amended in 1956 to permit inclusion of locally financed municipal water-supply structures as an integral part of a watershed project, application for help under the act was made in July 1958. The Pike County district and the city were sponsors of the project, with 12 endorsing local organizations. The structures were completed in 1961, and watershed land treatment is expected to be finished in 1962.

Here are some things Pittsfield did to make its dream of an adequate water supply come true:

Pittsfield's new lake with treatment plant at lower left.

Bought the structure sites and an additional several hundred acres around the lake, and embarked on a grass-seeding and tree-planting program on this land; built a road to the structure areas and removed timber from the lake site; hired a professional engineer to draw up plans for the lake structure and supplied extra help for survey and drilling crews of the Soil Conservation Service; and, through its city council, carried on a compaign to give the people of the area a full report on developments.

Meanwhile, Wendell Orr, 1959 chairman of the soil conservation district board, worked with the city and farmers in getting easements and rights-of-way; and the U. S. Forest Service and State Forestry Department, the SCS and the Extension Service cooperated on tree planting and woodland-improvement practices, and in getting better farming practices established on the watershed.

No one yet knows all the community and area benefits that may come out of this project. Mayor Penstone has set up a planning committee to preserve the beautiful shoreline of the lake, guide the layout of building sites, and deal with other problems or opportunities. In the meantime, farmers and townspeople of the Pittsfield area are enjoying better crops, freedom from floods, and such new-found recreational pursuits as fishing, boating, and picnicking that are resulting from their water development on the Big Blue.

Conservation Leader Looks at RAD

In 1959, more than 75 percent of all farm families had incomes of less than $5,000. About 36 percent of all our farm families had incomes of less than $2,000. That year the amount of underemployment on farms was equivalent to 1.4 million man-years of unemployment.

It's not good enough to suggest that displaced or underemployed farm people go to the cities . . . .

The big need, obviously, is for more jobs in rural America. That's the goal of the Rural Areas Development Program—and it's also a giant opportunity for soil conservation districts.

—William E. Richards, Pres.
Natl. Assoc. SCD

RAD—A New Rural Community

By John Baker

Agricultural Credit Director and Rural Areas Development Board Chairman John A. Baker.

RURAL Areas Development is establishing itself as a new and effective tool for strengthening community economic growth and improvement and thereby enabling rural America to contribute its full share to national economic strength and security.

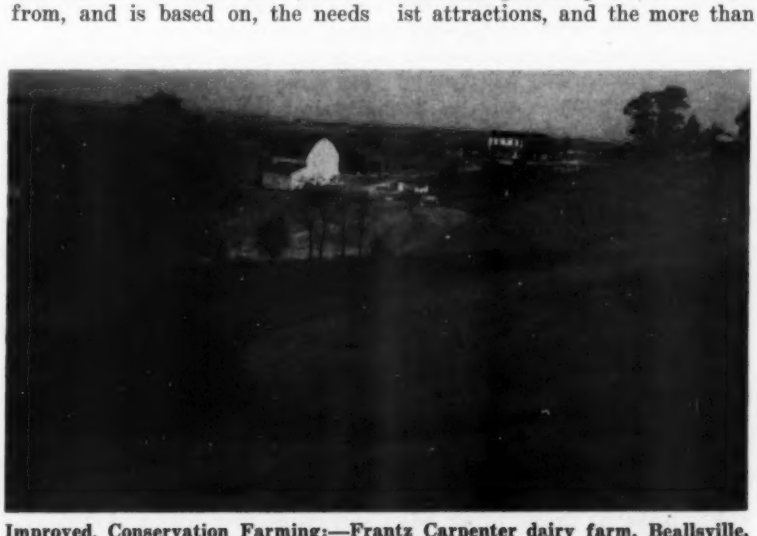
Rural areas development is not a separate new program or agency. It is a directed and reoriented new approach to all our work in the U.S. Department of Agriculture. It is a new concept of Government response to the aspirations of rural communities for development and growth—for program services that will stimulate their economies, both farm and industrial, both commercial and cultural, both human resources and natural.

Beneficial progress in the field of agriculture as elsewhere consists of bold, workable new ideas put to work. Farmers' and ranchers' local soil conservation districts and the Soil Conservation Service and other agencies of the Department whose technical and other services the districts depend upon have demonstrated the success of combining skillful physical and biological engineering with skillful social engineering. Rural areas development is another such bold, new idea being put to work with that same skillful combination.

The principles that have proved to be sound and effective in their application in soil conservation districts, small-watershed projects, and in the Great Plains Conservation Program are now being put to work on a Department-wide basis, to help build the economic and institutional, as well as conservation, foundation for permanent prosperity in rural America.

Rural areas development, like soil and water conservation, starts from, and is based on, the needs and desires of the rural community itself. The basic ingredients are initiative, imagination, drive, and cooperation among local people and their organizations and leaders, making effective use of available services, including those provided by the Federal Government. It is the same combination that has spelled success in soil conservation districts.

More rapid economic development of rural America will require new businesses and new industries, watershed development, additional small factories, improved facilities for outdoor recreation, new farm crops, flood prevention, improved health facilities, more adequate and more prosperous family farms with sound long-range soil, water, and management plans, new tourist attractions, and the more than



Improved, Conservation Farming:—Frantz Carpenter dairy farm, Beallsville, Ohio, with FHA farm improvement loan and REA electric service.

New Tool For Community Improvement

By John Baker

Community Industries:—This Saltello, Tenn., shirt plant employs 170 people.

New Schools:—Old River High School at Hannibal, Ohio, was sold as an industrial site.

101 other things that are needed to expand economic opportunities and build better rural communities.

Through the rural areas development approach, the Department seeks to adapt and shape the programs of all its agencies to be of greatest possible usefulness to local rural areas to meet their current needs in ways that people in the areas hope to meet them. All the agencies of the Department are taking part in one way or another in rural areas development. We operate under a broad framework of legislation that provides a great many tools that the people of a community can use to develop the resources and opportunities of their areas.

This is a broad, nationwide effort to focus all of our local, State, and Federal resources so as to encourage and promote community improvement and enterprise stimulation in the entire countryside and all the villages, towns, and small cities of rural America all over the Nation. Every rural county in the United States is eligible for special attention. Counties of each trade or market area are going together to formulate and carry out an area development and improvement program.

Taking the new areas development approach, rural communities can begin to dream for an optimistic future. Secretary Orville L. Freeman has committed USDA efforts to help them to make those dreams come true. American democracy was founded on the rural frontier—guided and shaped by it. American democracy can still fulfill the pioneers' dreams in the rural areas where it was founded.

Our goal is to sustain a more rapid rate of economic growth and community improvement throughout rural America—a rate rapid enough to take up the slack of an equivalent of 2 million full-time unemployed, plus the more than 12 million youth who will come to working age in rural America and will be looking for jobs over the next 15 years. This is not a simple problem. Rural communities will need to put out all the effort, all the energy, and all the drive and vision they have in order to succeed. They want and need to organize for a sustained effort. But to succeed, the initiative and the policy decisions must be those of private rural citizens.

To maintain the non-Federal character of rural area development organization and policy making, State Extension Services (rather than straight line Federal agencies) were invited to take the lead in helping local leaders to organize State, area, and county programing committees. They are composed of broadly representative leaders of all the private, State, and local groups and agencies properly interested in rural community improvement—all who seek to root out all the complex causes of rural poverty and rural disparity.

Most States already have active rural areas development committees. In all of them, the State soil conservation district committees, commissions, or boards and the district associations are providing leaders for committee membership with special soil and water conservation and development know-how.

State rural areas development committees are setting up similarly broadly representative area and county committees of private local citizens. The major significant work of area program formulation and implementation will, must, and should be done by these area citizens' committees.

Federal specialists will be "on

Note:—The author is director, Agricultural Credit, and chairman of the Rural Areas Development Board, U. S. Department of Agriculture, Washington, D. C.

tap but not on top" in area program development. Federal employees of USDA and other agencies, where appropriate, have been organized into State technical panels. The Farmers Home Administration State director serves as chairman of the State USDA technical panel. The SCS State conservationist is a key member. Agencies represented on the panel are supplying technical help to the lay citizens' committees in carrying out or backstopping rural area development programs.

Similar USDA technical panels are being set up to provide professional aids to area and county committees. The relationship of a State, area, or county rural areas development committee to its technical panel is expected to be comparable to that of a soil conservation district governing body to the SCS work unit staff.

Continuous group attention to a living overall development program by broadly representative area leaders is the key to more rapid economic growth and rural community improvement. A living, meaningful area development program, like a good long-range farm or watershed plan, must be constantly renewed and improved. This requires continuous analysis of a fairly detailed knowledge of area resources, such as farm production facilities, manpower, timber stands, etc., and of such problems as extensive poverty on too-small farms, lack of training opportunities, and large numbers of people beyond the work age. Developing such a program requires a hard-headed, business-like evaluation of area potentials and limitations. It consists of a long-range agenda for progress and a list of priority projects, with specifications on how they are to be carried out successfully.

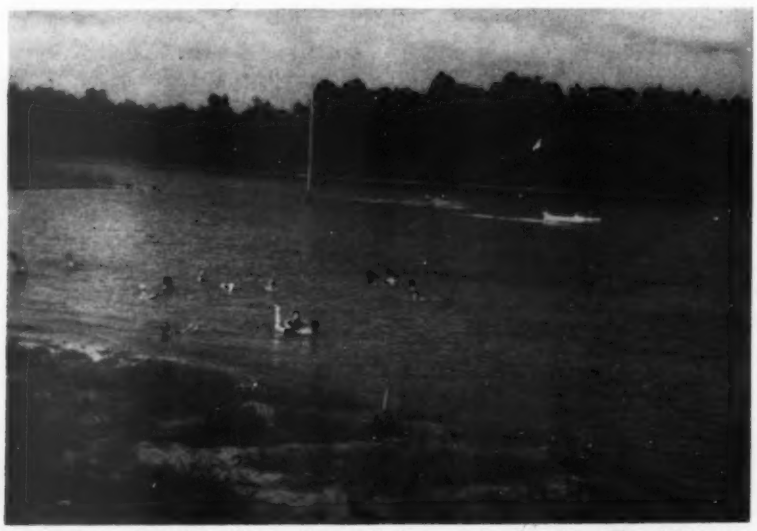
Let me give you an example of how all the elements of area development—farmland, water resources, manpower, industry—have a way of fitting together:

A few years ago, a big plant opened in a rural southern Ohio county with a majority of small, low-production farms. Many of the farmers found work helping build the plant, and permanent work in the plant upon its completion. This development offered an opportunity for some of the full-time farmers to buy or rent land from their neighbors, not only to make up economic units but, just as important, to maintain conservation practices on what had been idle, often neglected land.

Nothing the Department of Agriculture is doing puts this idea into practice better than the Small-Watershed Program. In one area after another where such a program has been developed, the entire economy has been given a shot in the arm. Culpeper, Va.; Six-Mile Creek Area, Ark.; Stephens County, Okla.—the list is long. Hopefully, it will be longer.

A small-watershed project often catalyzes the whole rural development complex. Family farm improvement, soil and water conservation, water resources control, industrial development, commercial expansion, improvement of community facilities, and recreation—they all fit together, like a well planned, well made building. Conservation supports improved farming and protects basic farm resources. Industrial development in turn makes possible better use of farm resources, and brings more capital and more income into the area to pay for other needed long-term improvements.

That is rural areas development at work!



More Recreational Facilities:—Dumas Lake area developed by Tippah County, Miss., community clubs through rural development program.

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Soil surveys and other information furnished by the Soil Conservation Service provide the basis for farm records being used in a study of reasons for variation in farm income on wheat-pea farms in northern Idaho. Researchers of the University of Idaho are using these records to study the effect of changes in farm size, in crop rotations, and in the amount of commercial fertilizer used.

◆

The National Association of Soil Conservation Districts will hold its 16th annual meeting in Philadelphia, Pa., at the Sheraton Hotel February 4-9, 1962.

Arkansas Watershed Project

Boosts 2-County Area Economy

By Hollis Williams

Seamstress in hosiery plant is one of 400 workers employed by new industries.

NEW industries and improved municipal water supply are among numerous tangible evidences in Arkansas' Six-Mile Creek watershed that small-watershed projects are effective in bringing about successful rural area development.

Six-Mile Creek was selected for a pilot watershed-protection and flood-prevention project in the fall of 1953, and work was essentially completed in 1959, with Soil Conservation Service engineering and other help. In addition to 24 flood-detention structures, the work included 28 miles of stream-channel improvement, and land-treatment measures on the major part of the 164,627-acre watershed.

Of the 1,111 farm units in the watershed, 1,056, comprising 138,830 acres, are operated by farmers cooperating with the sponsoring Franklin County and Magazine (Logan County) Soil Conservation Districts. Ninety-seven percent of their planned conservation treatment has been applied.

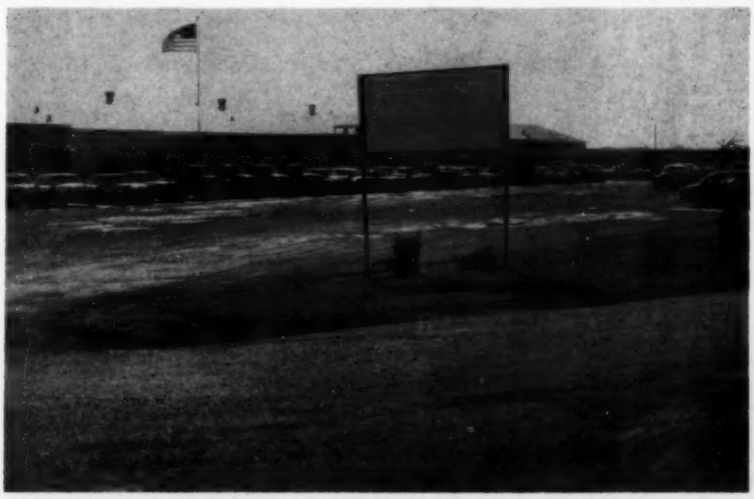
Three new industries have come into the watershed area since the project was established in the fall of 1953. Each of them depends upon water from one or more of the flood-detention structures for its present needs or future development. In fact, the first industry, a comb plant, was about to pass up a proposed location at Booneville, because of inadequate water for later expansion; but when the local people made arrangements for use of water from two of the flood-prevention structures, the plant was built.

A short time later, the same company set up another new industry, for manufacturing bowling balls. Next, a hosiery company opened a plant, arranging for water from another flood-detention structure.

These 3 companies employ more than 400 local people and have combined payrolls of more than $1 million a year. They have given a big boost to the economy of the surrounding area, from which they draw their labor supply. Principal towns in the area are Paris, population 3,000; Booneville 2,700; and Charleston 1,200.

"The watershed project has created very favorable conditions for rural development," says John Lachowsky, Logan County supervisor of the Farmers Home Administration, the agency which, with the Rural Electrification Administration and Extension Service, has the job of helping local groups get under way in the Rural

Note:—The author is assistant administrator for watersheds, Washington, D.C., and former Arkansas State conservationist, Soil Conservation Service.



One of three plants attracted to Six-Mile Creek watershed by ample water supplies.

Areas Development Program. "You'd be suprised at the building improvement, new housing, dairy barns, poultry houses, and improved pastures that have been developed since the watershed program started."

Jeff High, assistant county supervisor, reported that FHA was closing a $13,000 farm home loan which it was able to make "because the watershed program put a lot of bermudagrass on the land." This farm, he explained, had extensive flood-plain land on both sides of Six-Mile Creek; but before the flood-prevention structures were built, this bottom land was virtually worthless, because of frequent flooding. Now, protected against floods and planted to improved pasture, it is valuable land that provides ample security for the loan.

Logan County Agent Morris O'Quinn pointed out that, "We have shown that a watershed program can supply the water needed for industrial development. And you've got to have water before you can get industry interested in any location."

The Six-Mile Creek project soon will be providing supplemental water for Charleston's municipal water system. Charleston is spending $26,000 to raise the dam and spillway of one of the flood-prevention structures to provide an additional 84 million gallons of water a year. The resulting total of 134 million gallons will meet the town's estimated needs until 1990.

President Clyde Hiatt of the American State Bank at Charleston explains that one reason for supplementing the water supply is the tremendous amount of water used by a cannery there. The cannery provides a market for produce from a wide area, and employs 40 to 50 local people. Thus watershed development will be an important factor in the continued successful operation of this fourth plant.

Another benefit of the flood-prevention structures showed up early, when the Arkansas River at Little Rock dropped to its lowest point in history on September 12, 1956. Tributary streams like Six-Mile Creek long since had ceased to flow; but several hundred million gallons of water was available for emergency use in the 21 reservoirs that had been completed. For example, landowners along Little Caney Creek, a tributary of Six-Mile Creek, were able to get livestock water from an upstream reservoir when its drain was opened for 24 hours and Little Caney began to flow again. All the low places in the creek were filled with fresh water, but the reservoir level was lowered only 3 inches.

Section of Six-Mile Creek in 1955 before channel improvement. (Note bridge upper left.)

Same stretch of the stream in 1957 after channel improvement.

All these benefits are incidental to the primary flood-prevention purpose of the Six-Mile Creek watershed project. A continuing study by the Agricultural Research Service since 1955 shows that reduction in flood and sediment damages has averaged nearly $45,000 a year. That includes years when only a small part of the protective measures had been installed, and when much of the bottom land had not been put to its best use and "damageable" value of the crops and pastures was not yet at its maximum.

Logan County Judge J. W. Cotton estimates that the project saves the county an average of 75 percent of the usual costs of road and

Recreation is an important benefit of project's 24 flood-detention reservoirs.

bridge maintenance within the watershed, with the money saved available for improving farm-to-market roads.

The effect the watershed program has had on farms with flood-plain land is illustrated on the 767-acre farm which Ed Ullrich manages for a milk company. Ullrich was born on the farm, which included land homesteaded by his father; but when his father died he had to sell the place, because he couldn't borrow enough money to buy out the other heirs. One reason was that the 400 acres of flood plain was considered virtually worthless, flooding 10 to 15 times from January to June during an average year. The land was so grown up in briars and sprouts that "a dog couldn't get through it," he said. Its loan value was nil.

"I've already cut 50 bales of hay to the acre on this field this year," Ullrich reported of his 1960 operations, which included harvesting a fall crop of grass silage from the same level flood-plain land. "I couldn't do anything with this land before the dams were built and the channel work was done. Now I've got all my barns full of hay and my pit full of silage.

"With the rain we've had this year, this valley would have been under water all the time. Before, we couldn't plow the land, because the sweeping wash of the floods would scour the soil away. We couldn't even let our cows run down here for fear of flash floods. But now, if I were looking for a livestock farm, I wouldn't know where to find a better one."

In addition to the sponsorship of the soil conservation districts, the watershed program has been backed or given help by chambers of commerce, commercial and civic clubs, county governments, highway departments, farm organizations, school officials, women's clubs, garden clubs, levee districts, public utilities, the Soil Conservation Service, Agricultural Stabilization and Conservation Service, the Forest Service, and other U. S. Department of Agriculture agencies, and by local industrial groups, city governments, newspapers, and radio and TV stations.

Small wonder that Six-Mile Creek was chosen "1960 Watershed of the Year" by the National Watershed Congress!

District Program Restores *Ghost Land*

In Nevada Ghost Town Area

By D. J. Johnson

MANY localities in the West have "ghost land" as well as their better-known ghost-mining towns. But while ghost-town store fronts and shanties continue to crumble away, many of their lands are being restored to profitable livestock use through modern soil and water conservation district farm and ranching systems.

Take, for example, the Crystal Springs Ranch in Pahranagat Valley, a pioneer setting of ghost towns, close to one of Nevada's first gold strikes. There, under its enterprising owners, the eight Stewart brothers, the old Crystal Springs Ranch, dating back to frontier times, is getting the full good-land-use treatment and is becoming a new conservation showplace. In a little more than a year of planning and doing, some 700 acres of shabby bottom land has taken on a fresh, new, productive look. Hay yields already have doubled on 80 acres, and grazing on much of the revamped land soon will step up from 1 to 3 animal-unit months an acre.

Crystal Springs Ranch was broken out of desert land between 1853, when Hiko to the north became a bustling mining camp, and 1880, when Alamo was settled just to the south. Indians at one time grew their crops on the ranch site. The ranch has had seven owners since 1870, all livestockmen.

The ranchlands were run down and overused when the Stewarts bought the place in 1956. Thick stands of cottonwoods waterlogged old ditchbanks. Alkali was so thick on bottom lands that it looked like a fresh snowfall. In 1957, the year the Stewarts took over, bottom land hay outputs were down to 1½ tons an acre.

"We had some real tough soil and water problems to solve but didn't have the 'know how' to work them out," said Gilbert and Alden Stewart, as spokesmen for the brothers-eight. "One of our first moves before going ahead with

An abandoned (western) "ghost town" store.

Note:—The author is work unit conservationist, Soil Conservation Service, Caliente, Nev.

This is Crystal Spring, source of irrigation water for 2 ranches, which flows at the rate of 11 cu. ft. year-long.

our development plans was to talk things over with the supervisors of the Pahranagat Soil Conservation District early in February 1957.

"A technician from the Caliente office of the Soil Conservation Service, came out to our place, and we began working out the bottlenecks together. The first thing recommended was to lower our high water table and get rid of cottonwoods. Most of our bottom land needed leveling, too, so we could do a better job of irrigating. After much planning we got on with the ranch-revamping work."

This is the 1-year calendar of the Stewarts' successful efforts to restore their "ghost lands" to a modern, productive ranch unit:

February—Tractors and carryalls started leveling around 135 acres of rough land on two of the least waterlogged and tree-covered fields and shaped it for irrigation; and a bulldozer pulled out and windrowed trees and filled up ditches. Leveling costs averaged $50 an acre.

April:—Borders and corrugations for better control of irrigation water were laid out. Fields were seeded to a mixture of alfalfa and long-summer growing alta fescue, smooth bromegrass, and orchardgrass adapted to this area. Fertilizing to control weeds was put off until the next year, when 200 pounds of treble phosphate and ammonium sulphate were applied.

June:—Work started on installing more than a mile of concrete-lined canal to carry spring water safely through bottom lands. It replaced 3 miles of old dirt ditching which crisscrossed and waterlogged the lands.

July:—The canal was completed, with five lateral ditch outlets, carrying a flow of 4,950 gallons of water a minute. The ditch cost the Stewarts about $1.60 a linear foot. Early concrete-lined ditches in the valley were built by hand labor, but the Stewarts used a slip-form type of boat which pressed concrete lining into place as it was pulled along in the ditch. This machine work called for little hand labor.

Concrete-lined irrigation ditch in sandy area with high saline condition.

In operation, the canal did more than carry the spring water; it lowered the water table on most of the ranch so more land could be leveled and otherwise improved for better forage and livestock production.

December:—At a time when the water table normally is high, 4-foot holes were dug in drained fields without hitting water. The Stewarts started developing more of their ranch with three 21-cubic-yard, self-propelled carryalls, three dozers, and ditch-lining equipment.

February 1958:—A year after the start of the Stewarts' soil and water conservation work, 237 acres had been leveled for irrigation, and 9,874 feet of concrete-lined ditches were completed. Erosion-control dikes and dams had been installed to protect bottom lands from watershed runoff on desert range on the west side of the valley. Development work also included putting in fencing around the ranch boundaries, plus some cross-fencing, and building of a 1 acre-foot pond near ranch headquarters.

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Sundangrass makes a good, high protein silage.

Part of 23-acre leveled irrigated field that produced 5 tons of grass-alfalfa in 1959 as against almost none in 1957.

Only A Stone's Throw

To Rural Area Improvement

By Joseph Bornstein

FARMERS and summer cottagers in Vermont have hit upon a mutually beneficial solution to the problem of what to do with those pesky stone piles on hayfields and other farmlands.

Regardless of the ultimate findings as to whether rocks should or should not be picked from stony fields, those accumulated through past generations of stone picking pose a real problem for Vermont and other New England farmers trying to manage their lands efficiently and make the best use of their haying and other equipment.

One of them is J. A. "Dolph" Dewing in Franklin County. Eleven stone piles on the Dewing farm in East Franklin not only were in the way of his farm operations, but they also interfered with a proposed U. S. Department of Agriculture-University of Vermont drainage research project.

The Dewing farm, in the family since the 1830's, is a "country mile" south of Canada, on Lake Carmi. "Dolph," as have many of his neighbors, has been picking stones off his fields and adding them to the ancestral rock piles for most of his farming life, every time a field is plowed. A stone pile, 25 to 40 feet in diameter, on every 5 acres is not uncommon in the area.

Loading stones on Dewing farm.

Dewing has been a Franklin County Soil Conservation District cooperator since 1953. Even in dry years he has hay to sell from his 172 acres, that feed 60 milkers and 10 to 15 head of young stock. The market for hay convinced him it would pay to improve his water-disposal system and go to an improved, long grass-legume mixture, with drainage lengthening the time between reseeding and helping increase hay yields. But it was not easy to fit an efficient drainage system between the assembled cobbles, or to maneuver equipment around piles of stone.

Plans were made to start moving the stones off the drainage research site in August 1959, but fall rains held up the job, though two cottage lot owners were looking for solid fill. In January 1960, Conservation Contractor Walter Benjamin of St. Albans came in with an idea to put his idle equipment to work.

He figured he could plow roads across Dewing's snow-covered field to let the ground freeze solid. There was only 6 inches of frost under the snow. Within three subzero nights after plowing, the trucks were able to roll right up to the stone piles. Using a bulldozer, a ⅜-yard track-mounted shovel, and two 5-yard trucks, his crew averaged a stone pile every 10 hours, with a one-way haul of nearly a mile.

The stones ranged from 4 to 30 inches in diameter, with some even larger. They were used for fill at two cottage lots at Lake Carmi, and to widen a farm road. Dewing used his small crawler dozer to level the stones as they were dumped. In all, six stone piles were cleaned up during the winter operation. Five more were loaded and hauled away in July 1960, with more stone-moving orders already in for the winter of 1961.

J. A. Dewing inspects widening of farm road with stone from his pasture.

The summer residents paid most of the cost of hauling the stones to their lots, and Dewing stood the remainder of the cost of hauling and all the loading and leveling at the fill site. Farmers who sign up for this conservation practice usually are eligible for Agricultural Conservation Program payments.

High-potential Cabot loam soils similar to those on the poorly drained but potentially highly productive Dewing field are found on more than 70,000 acres in Vermont. Stone pile removal increases the usefulness of such stone-cluttered land by at least 70 percent.

Stone salvaged from farm fields also may be used for on-farm filling, by local highway departments for road building, or for streambank riprapping.

Note:—The author is agricultural engineer, Soil and Water Conservation Research Division, Agricultural Research Service, Burlington, Vt.

Community Action in West Virginia

Brings Multiple Area Benefits

By Gordon S. Smith

SERIOUS flash floods so well known to past generations are nightmares of the past for Salem in West Virginia. Gone, too, are the water shortages that once threatened to strangle progress in the valley.

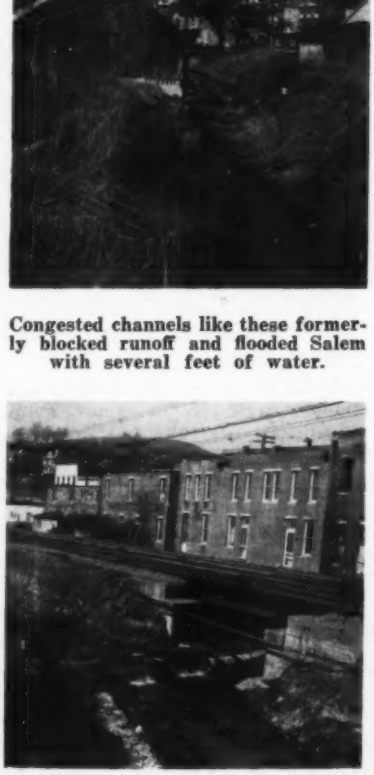
Community self-help turned the trick.

Floods, stemming from several tributaries in the Salem Fork watershed, formerly spewed muddy water across the valley at least once a year. The reverse problem of dangerously low municipal water supplies would show up 2 months later. In one 5-year period, more than half a million dollars in flood damages was shared by homes, farms, industry, business establishments, railroads, and highways. Heavy runoff gouged deep gullies in the steep hillsides. Displaced topsoil, averaging 23,000 tons a year, blocked stream channels. Twice since 1936, Salem had cleared the channels, only to have them fill in again.

Flood prevention in many forms had been tried unsuccessfully before 1953, when Salemites took advantage of new aid offered under the Federal pilot watershed program, forerunner of today's widespread small-watershed protection and flood prevention program that makes technical aid and cost-sharing available to local community organizations.

Small-watershed planning incorporates upland conservation measures with such downstream structural improvements as may be needed. Cost-sharing with local organizations was a "natural" for Salem. The community had an informal "self-help" group organized for years in the people's fight against flooding.

Congested channels like these formerly blocked runoff and flooded Salem with several feet of water.



With public backing and a genuine desire to have a better, flood-safe community, Salem formed the Upper Tenmile Watershed Association, with Herschel D. Wade, an automobile dealer, as president. The West Fork Soil Conservation District co-sponsored the watershed project.

Soil Conservation Service technicians designed a plan that called for seven floodwater-retarding dams, each with the capacity to hold back the water from a 3-inch storm. Another dam was designed to hold 60 million gallons for additional municipal water supply. The City Council sold $250,000 worth of 30-year revenue bonds to pay local costs of this dam. Four miles of stream-channel improvement was designed to give excess water safe exit from the valley.

The project's upland conservation plan included setting out more than half a million trees on 2,223 acres of eroded land, and protecting existing woodland by 46 miles of new fencing. More than 1,200 acres of grassland were earmarked for liming, fertilizing, and reseeding. Landowners speeded up the building of diversion terraces, grass waterways, and farm ponds, and making use of other conservation measures like contour stripcropping and wildlife food and cover plantings.

Everyone in the valley joined in to make a success of the program, which by August 1954 was complete and ready for operation. Fund-raising programs were conducted by local business interests and civic clubs. The Harrison County Court helped with legal expenses. The U. S. Forest Service helped with forest management. West Virginia's Conservation Commission accelerated its wildlife shrub planning program. The State Road Com-

Note:—The author is field information specialist, Soil Conservation Service, Upper Darby, Pa.

mission provided money for road relocation. The Agricultural Conservation Program conducted a special "sign-up" effort for cost-sharing on conservation measures in the watershed.

The structures were completed by mid-1958, when the upland conservation work was more than 75 percent finished. Runoff and erosion diminished, with conservation measures applied on 4,500 acres of land on the valley's 115 farms.

Even before completion of the project, Salem's 2,600 inhabitants were enjoying the benefits of the conservation work. A 2¾-inch storm came 3 months before the last structure was completed. Each finished dam had water 6 to 9 feet above the normal level behind the dam. Salem Fork stayed well within its new channels as it passed through town. It would have been another flood in years gone by!

The added 60-million-gallon guaranteed water supply ended water rationing. New business and industry now could be attracted to the valley by flood-safe sites and dependable water facilities, creating jobs for local people. Reduced sediment in the channels and less road and bridge damage have saved local funds for other municipal improvements.

Farmers can plant crops in their fertile bottom lands with little or no danger of flooding. Upland farmers grow better crops on their conservation-protected acres. In many locations, permanent pools behind flood dams are furnishing water for various farm uses.

Local fishermen have an added 20 to 25 acres of good fishing water in the new lakes. Wildlife has increased in the valley because of added acres of new food and cover plantations.

Even more significant than these multibenefits is the fact that the valley has improved its general economy through its own efforts. By thus augmenting available Federal and State aid, Salem has developed its natural soil and water resources to bring progress back to the valley. And it has done so with a return in benefits of almost $2 for every $1 invested in the project.

In accepting the 1959 "Watershed of the Year" award at the Sixth Annual National Watershed Congress honoring Salem Fork Watershed as the most outstanding watershed project of its kind in the Nation, Wade sounded the keynote to successful rural areas development like that represented in the Salem Fork watershed undertaking: "I represent a group of people, full of community spirit, trying with their best efforts to build a better community, State, and Nation."

Board of directors of Upper Tenmile Watershed Assn. that headed Salem Fork project: Left to right seated: Walter A. Holden, Kenneth Summers, Edwin J. Bond, Herschel D. Wade, and David L. Nicholson. Standing: Glenn L. Post and Harley D. Bond.

Cox-Rogers dam was the first completed in Salem Fork project.

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W. P. Stephens, New Mexico State University Agricultural Economist, says irrigation is a blessing to both agriculture and industry, because it not only has made arid lands productive and enlarged the livestock industry by increasing feed crops, but has supplied other industries with raw materials of food and fiber.

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The Mercer County Soil Conservation District in New Jersey has found that muskrat damage in farm ponds can be prevented by installing sheets of asbestos cement in the dam. The bottom of the barrier is 2 feet below normal water level and the top about 6 inches below the top of the dam. For dams already damaged, a mechanical ditcher is used to dig a 4½-foot trench in which to install the sheets.

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Americans of average means now enjoy meals undreamed of by the wealthiest people only 50 years ago.

Grass Is Key To Nebraska Rural Area's Improvement

By Oryl L. Fischer

SHERMAN County in Nebraska was one of the localities chosen in 1957 for a trial of the proposition that rural communities generally can provide most of their own power for lifting slowly developing areas to higher economic ground. Its experience has proved the idea is sound.

As in other pilot counties selected for the test through the Rural Development Program, Sherman County had areas where improvement was needed. Today's expanded Rural Areas Development Program operates on the premise that there are such opportunities in virtually every county in the Nation, regardless of its overall productiveness and prosperity.

The whole economy of Sherman County rests heavily on agriculture. And, as one of the leaders in this "operation bootstrap" movement commented: "The place to start this kind of a program is with our land."

Marvin N. Sather, resource development agent for Loup City area, on typical eroded hillside.

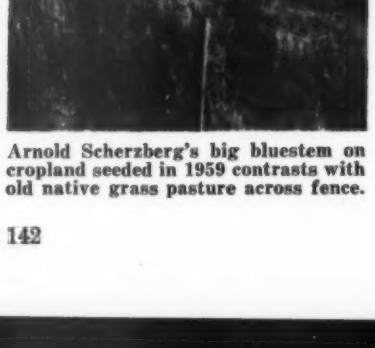
The program got a timely boost from another federally sponsored program that went into action at about the same time. This was the Great Plains Conservation Program, designed to deal with the special soil and water conservation problems in that region. These problems stemmed in the beginning from a lack of understanding of Plains soils and climate in relation to how farming must be fitted to those conditions.

The Great Plains Conservation Program provides Federal cost-sharing and technical help through the Soil Conservation Service in getting the conservation job done faster. The landowner agrees to do the completed job on his farm or ranch in a systematic way, within his 3- to 10-year cost-sharing contract period.

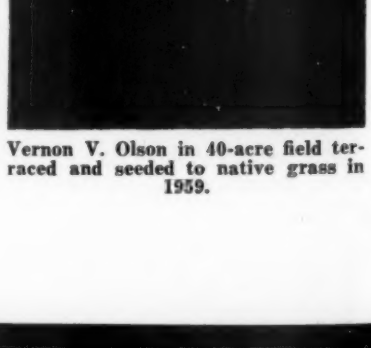
When community leaders were sizing up their overall needs in Sherman County, it wasn't hard to pin a substantial part of the trouble on the way the land was being used. Too much of it—as shown by preliminary results of the countywide inventory of conservation needs—was cropland that was too steep or already too eroded ever to be a good business bet. A comparison of costs against year-after-year yields showed this kind of cropland was not paying its way, or contributing to the area's economy.

The inventory showed 60,000 acres of cropland unsuited to cultivation. This became a No. 1 target. The Great Plains Conservation Program and the Agricultural Conservation Program gave substantial help. In 3 years, farmers and ranchers in Sherman County have seeded 10,000 acres of their

Note:—The author is work unit conservationist, Soil Conservation Service, Loup City, Nebr.



Arnold Scherzberg's big bluestem on cropland seeded in 1959 contrasts with old native grass pasture across fence.



Vernon V. Olson in 40-acre field terraced and seeded to native grass in 1959.

low-grade cropland to permanent grass cover.

Fritz Olson and his sons, Evert and Vernon, had some of this land conversion in their conservation plan. The Olsons turned 40 yearling steers into a 40-acre seeding of grass in the summer of 1961. After 2 months, you couldn't tell it was being grazed. The Olsons are convinced that this is the best use for this kind of land, and say it will pay them more than the grain they used to grow. And there are supplemental benefits:

"The grass is holding the soil," Olson Senior pointed out. "Before we put the grass there, the road ditch kept filling with silt."

Now the soil is held back on the land, and county-road maintenance is cut down accordingly.

The Sherman County citizens have been tackling other problems. The new cooperative grain elevator is one result of their conservation farming approach. The elevator had been sorely needed for more orderly and economical marketing of grain produced in the area. The county also now has a new fire control district, which will cut down on losses, and reduce insurance premiums. A new fire truck is giving everyone a feeling of greater security.

A countywide program to encourage farmers and ranchers to keep better books on their operations is making headway.

Due credit for rural development progress goes to men like Marvin Sather, resource development agent, and Sherman County's Maurice Reiter and Delbert Burton, board members of the Sherman County Soil Conservation District. But the progress made must be credited mainly to the enthusiasm with which all the people of the county have gone into the program, and to their willingness to do their part in carrying it through.

There are 885 farms and ranches in Sherman County. Many of them have some of the needed soil and water conservation installed. A few have all of it. The ultimate goal is complete soil and water conservation for all of the county's agricultural land. The people of Sherman County have had enough experience to be convinced that conservation farming and ranching is a fundamental step to their fullest rural area development.

THE SMALL PRIVATE FOREST IN THE UNITED STATES. By Charles H. Stoddard. 171 pp. 1961. Resources for the Future, Inc.: Washington, D. C. $2.00.

This book is the fourth in 5 years in which studies of forestry problems are reported directly or through grants by Resources for the Future. Each of them has been directed to the social and economic, rather than the physical aspects of the problem, in recognition of the fact that the underlying problem has to do with men rather than trees.

For those who have an allied interest, Chapter VII, Summary, provides an insight into the many complex factors, somewhat arrayed, which seem to have, in part, caused small woodland ownerships to be a problem. A factual account of "Organized Group Efforts in the U. S. and the Scandanavian Countries" clearly portrays the need for organized local leadership. The author logically concludes there are advantages to employing existing soil conservation districts for coordination of the different programs of assistance to small-woodland owners.

Additional justification for this point of view is the present interest in Rural Areas Development, and the many opportunities for soil conservation districts more agressively to encourage their cooperators who own small woodlands to use them for increased conservation benefits.

Another conclusion indicating the author's realistic attitude toward the so-called small woodland ownership problem is: "The economic potentials of small private forests depend upon a number of factors: The forest itself; the general area in which the forest lies; the relationship of the forest to other activities of the forest owner; the projected demand for forest products; and perhaps others." This identification of the principal factors involved puts the small woodlands and their owners in true perspective in the individual and area economy.

In six other succinctly written chapters, Stoddard discusses the Small Forest and Its Significance; Economic, Institutional, and Natural Influences; Educational and Technical Assistance Programs; Modification of Unfavorable Factors in Private Forestry; Organized Group Efforts in Private Forestry; and Conclusions and Suggestions for Future Action. Each of these chapters merits serious study by those who have a responsibility or direct interest in public programs designed to assist owners of small-woodland acreages.

—T. B. PLAIR

Have You Seen?...

● *Cobalt Deficiency in Soils and Forages—How It Affects Cattle and Sheep,* Leaflet No. 488, a new Agricultural Research Service publication. This 5-page, popular-style leaflet tells why certain soils lack enough cobalt; why and how the deficiency affects cattle, sheep, and a few other animals; and what can be done to correct the deficiency in soils and to treat the animals.

◆

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Missouri Couple

Conservation Team

G. W. MONTGOMERY of Pattonsburg and his wife have played a prominent role in soil conservation in Missouri for years.

"George and Dolores" are natives of Harrison County, where they operate 600 acres, specializing in hogs and beef cattle. George grew up on this farm, and is a graduate in agriculture of the University of Missouri.

Activity in community affairs comes second nature to the Montgomerys. George is serving his second term as chairman of the Harrison Soil and Water Conservation District board of supervisors, and is vice-president of the Missouri Association of Soil and Water Conservation Districts. He is a past chairman of the local hospital board and also is a member of the board of the Christian Church of Bethany.

The Montgomerys won the W.G. Skelly award for outstanding achievement in farming in 1945. George made Goodyear award trips to Litchfield Park, Ariz., in 1948 and in 1959 in recognition of his outstanding accomplishments in soil conservation farming. In 1950, he accompanied a group of farm leaders from Mid-America on a trip to Europe.

George and Dolores volunteered their farm for the main events for the National Plowing Match and Conservation Field Days in 1951. The contest was attended by an estimated 100,000 people.

Attendance at regular and special district board meetings, plus personal contacts and phone calls on district business, are all in the Montgomery day's work. Outstanding in George's work for soil and water conservation has been his leadership, along with that of his fellow supervisors, in organizing and operating small watersheds in the Harrison district. Two watersheds in operation, with one for which an application has been approved by the State Watershed Committee, cover 208,000 acres, or nearly one-half of the district.

Dolores and George Montgomery.

Dolores was 1960 vice-president of the Ladies Auxiliary of the National Association of Soil Conservation Districts. She attends State and national meetings, and is active in planning and organizing activities for Ladies Auxiliary organizations.

Finally, but of first importance, is the fact that a soil and water conservation plan is well established on the Montgomery farm—proof once again that the best salesman for conservation farming is the farmer who has a conservation program on his own land.

—LEE BOWEN